

REMARKS/ARGUMENTS

Claims 21-29 are active in this application.

These new claims are presented to combine certain embodiments of the claims previously presented.

Claim 21 finds support in Claims 11, 12, and 21.

Claims 22, 23, and 24 find support in Claims 11 and 12.

Claim 25 finds support in Claim 13.

Claim 26 finds support in Claim 15.

Claim 27 finds support in the specification on page 2, lines 17-23.

Claims 28 and 29 find support in Claims 11 and 14.

No new matter is believed to have been added by these amendments.

As set forth in the amended claims, the invention is directed to a method of treating organic pollution on a glass substrate including a titanium dioxide layer, by treating the substrate with an electrical treatment or a flame treatment to remove at least silicone pollution from the substrate. As discussed in the specification on page 2, 2nd paragraph, the formation of organic pollution on the surface of the glass substrate can degrade its performance and can also reduce the quality of visibility through the glass substrate.

The inventors have found that by treating the glass substrate with electrical or flame methods the organic pollution on the substrate can be reduced and/or eliminated such that the substrate can be regenerated to their state prior to the formation of the pollutant on the substrate (see page 2, last paragraph). Moreover, with textured substrates (see Claim 27), the surface morphology can also be retained, even in instances with fine features (see page 2, last paragraph).

It is respectfully submitted that the prior art cited in the Official Action fail to teach or suggest the method as claimed herein.

Notably, Claims 11 and 13 were rejected under 35 USC 102(b) in view of Hiramoto. However, as Claim 21 includes limitations of Claims 11 and 19 (not rejected), this rejection is no longer applicable. Moreover, as noted in the Action, Hiromoto describes ozone radiation which is not one of the treatments identified in Claim 21; and certainly does not discuss the treatment to remove silicone pollutants from the surface of glass. It is further worth noting that the treatment according to the invention has the advantage of regenerating the substrate to their states prior to the formation of pollution, and when applicable, do this without destroying surface morphologies (see page 2, last paragraph).

Accordingly, withdrawal of the rejection based on Hiramoto is requested.

The rejection of Claims 11 and 12 under 35 USC 102(b) in view of Kittler is no longer applicable as these claims have been cancelled and Claim 21 includes limitations of Claims 11 and 19 (not rejected). Moreover, Kittler's disclosure relates to treating a primer layer and treating it in a manner so as it can suitably act as a binding layer. This is different from the concept presented in the claims. That is, treating a glass substrate containing titanium dioxide, which can be used as self-cleaning glazings, e.g., glass, where both the suitability of using the substrate as a glazing, e.g., transparency, and surface morphology can be important factors. The treatment of a primer layer does not provide a reason how or why one would treat a glass substrate as claimed herein. Once again, it is further worth noting that the treatment according to the invention has the advantage of regenerating the substrate to their states prior to the formation of pollution, and when applicable, do this without destroying surface morphologies (see page 2, last paragraph).

Accordingly, withdrawal of the rejection based on Hiramoto is requested.

The rejection of Claims 11, 15 and 19 under 35 USC 103(a) in view of Chopin and Hiramoto is also no longer applicable as these claims have been cancelled. Moreover, this combination of art is no applicable to the claims presented herein.

Specifically, the rejection is based on the presumption that even though Chopin does not describe treating a titanium oxide containing glass substrate with UV ozone, it would have nevertheless been obvious to do so based on the teachings of Hiramoto (see pages 4-5 of the Official Action. The rejection fails for a number of reasons.

First, as amended herein, the treatment of the substrate does not include ozone UV radiation but rather electrical treatment and/or flame treatment. As such the cited art does not teach or suggest all of the claim limitations.

Second, Chopin's disclosure is directed to effectively a self-cleaning glazing or glass substrate utilizing the catalytic properties of titanium dioxide when exposed to, e.g., ambient UV radiation. In other words, according to Chopin, the solution for "dirty glass" is to provide titanium dioxide. Chopin does not discuss the build up of organic pollutants that occur even when titanium dioxide is included in the glass (noting that the present claims include titanium dioxide in the glass substrate and the specification specifically discusses these problem—see page 2, referenced above as well). In another manner of effecting removal of pollutants on substrate, Hirmoto provides an alternative, which is to treat with UV Ozone and notably does not teach treating titanium dioxide containing glass substrates. Thus, the references would not simply have been combined because each is directed to their own way of achieving clean glass and there would have been no reason to combine them absent the present claims and specification as a guide.

There is nothing in the references when taken together that suggest the treatment of glass TiO₂ containing substrates with electrical treatment or flame treatment that would permit one to envision that which the inventors have discovered. Specifically, the treatment according to the invention has the advantage of regenerating the substrate to their states prior to the formation of pollution, and when applicable, do this without destroying surface morphologies (see page 2, last paragraph).

Accordingly, in view of the above, withdrawal of this rejection is requested.

The rejection of Claims 11-15 and 19 under 35 USC 112, second paragraph is no longer applicable as these claims have been cancelled and the noted phrases are not present in the claims as amended. Notably, an optional wash has been included in a dependent claim and the surface morphology has been clarified. Accordingly, withdrawal of this rejection is requested.

Respectfully submitted,

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